higher frequency than patients diagnosed with phobia, obsessive compulsive disorder (OCD), or depression. The frequency of genetic alterations in mGluR network genes was also substantially higher in this anxiety population than in control populations that do not have other neuropsychological disorders.

[0013] Thus, provided herein are methods of treating anxiety disorder in a subject comprising administering an effective amount of a nonselective activator of metabotropic glutamate receptors (mGluRs) to a subject, thereby treating anxiety disorder. In some embodiments the subject has at least one genetic alteration in an mGluR network gene, such as a copy number variation (CNV).

[0013a] In one aspect of the disclosure, there is provided a use of fasoracetam in the preparation of a medicament for treating anxiety disorder in a subject, wherein an effective amount of fasoracetam is to be administered the subject, thereby treating anxiety disorder.

[0014] In some embodiments, a method of treating anxiety disorder in a subject is provided comprising administering an effective amount of a nonselective activator of metabotropic glutamate receptors (mGluRs) to a subject that has one symptom of anxiety and at least one genetic alteration in an mGluR network gene, thereby treating anxiety disorder. In another embodiment, a method of treating anxiety disorder in a subject is provided comprising administering an effective amount of a nonselective activator of metabotropic glutamate receptors (mGluRs) to a subject that has one symptom of anxiety, thereby treating anxiety disorder. The symptom may be any symptom known to those of skill in the art, including the symptoms provided in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5 2013), including, but not limited to, fear and anxiety.

[0015] Also provided herein are methods of treating anxiety disorder comprising administering an effective amount of a nonselective activator of metabotropic glutamate receptors (mGluRs) to a subject that has at least one genetic alteration in an mGluR network gene, such as a CNV, thereby treating anxiety disorder. In some embodiments,

gene. Provided as well are methods for identifying a subject as having anxiety disorder comprising obtaining a sample from a patient, optionally isolating nucleic acid from the sample, optionally amplifying the nucleic acid, and analyzing the nucleic acid in the sample for the presence or absence of a genetic alteration, such as a CNV, in at least one mGluR network gene, wherein the subject is identified as having anxiety disorder if at least one genetic alteration, such as a CNV, in an mGluR network gene is detected. The invention also provides methods for diagnosing anxiety disorder in a subject comprising analyzing genetic information about one or more mGluR network genes, comparing the subject's information to a control subject that does not have anxiety disorder, and diagnosing anxiety disorder if the genetic information suggests that the subject has at least one genetic alteration in a mGluR network gene.

[0022a] In another aspect of the disclosure, there is provided a method for diagnosing anxiety disorder in a subject comprising analyzing a sample comprising nucleic acid, which has been isolated from the subject for the presence or absence of a copy number variation (CNV) in at least one metabotropic glutamate receptor (mGluR) network gene, and diagnosing anxiety disorder if the subject has at least one CNV in an mGluR network gene..

[0023] Provided herein also are methods of confirming a diagnosis of anxiety disorder in a subject comprising: obtaining a nucleic acid-comprising sample from a subject diagnosed with anxiety disorder by a method that does not comprise detecting or analyzing genetic alterations in mGluR network genes; optionally amplifying the nucleic acid in the sample; and determining whether the subject has at least one genetic alteration, such as a CNV, in an mGluR network gene, and confirming a diagnosis of

anxiety disorder if the subject has at least one genetic alteration in a mGluR network gene.

[0024] In any of the above methods, the analysis for the presence or absence of at least one genetic alteration in a mGluR network gene may comprise microarrays, whole genome sequencing, exome sequencing, targeted sequencing, FISH, comparative genomic hybridization, genome mapping, or other methods using next-generation sequencing, Sanger sequencing, PCR, or TaqMan technologies

What is Claimed is:

1. Use of fasoracetam in the preparation of a medicament for treating anxiety disorder in a subject, wherein an effective amount of fasoracetam is to be administered to the subject, thereby treating anxiety disorder.

2. The use according to claim 1, wherein the subject has at least one genetic alteration in a metabotropic glutamate receptor (mGluR) network gene.

3. The use according to claim 1 or 2, wherein the use comprises obtaining results from a genetic screen that determines whether a subject has a genetic alteration in an mGluR network gene.

4. The use according to claim 2 or claim 3, wherein the genetic alteration is a copy number variation (CNV).

5. The use according to claim 4, wherein the CNV is a duplication or deletion.

6. The use of any one of claims 1-5, wherein fasoracetam is to be administered at a dose of 50-400 mg, 100-400 mg, or 200-400 mg, and wherein the dose is to be administered once, twice, or three times daily.

7. The use according to any one of claims 1-6, wherein the anxiety disorder is one or more of generalized anxiety disorder, phobia, social anxiety disorder, social phobia, panic disorder, panic attack, post-traumatic stress disorders, separation anxiety disorder, selective mutism, agoraphobia, or an anxiety disorder induced by a substance/medication or due to another medical condition.

8. The use according to any one of claims 1-7, wherein the subject has anxiety disorder as well as one or more of attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), conduct disorder, Tourette's syndrome, phobia, obsessive compulsive disorder (OCD), difficulty controlling anger, disruptive behaviors, dermatillomania, a developmental disorder, a mood disorder, a movement disorder, or depression.

9. The use according to any one of claims 1-8, wherein the subject is between the ages of 5 and 17, 5 and 8, 8 and 17, 8 and 12, 12 and 18, 13 and 18, or 12 and 17.

10. The use according to any one of claims 1-9, wherein fasoracetam is to be administered in combination with another pharmaceutical or non-pharmaceutical therapy.

11. The use according to claim 10, wherein fasoracetam is to be administered in combination with an anxiolytic agent.

12. A method for diagnosing anxiety disorder in a subject comprising:

(a) analyzing a sample comprising nucleic acid, which has been isolated from the subject for the presence or absence of a copy number variation (CNV) in at least one metabotropic glutamate receptor (mGluR) network gene, and

(b) diagnosing anxiety disorder if the subject has at least one CNV in an mGluR network gene.

13. The method of claim 12, wherein the subject has CNVs in at least 2, 3, 4, 5, 6, 7, 8, 9, or 10 mGluR network genes.

14. The method of claim 12 or claim 13, wherein the method comprises detecting CNVs in mGluR network genes by subjecting the sample to a screen that

assesses CNVs in at least 2, 3, 4, 5, 6, 7, 8, 9, or 10 mGluR network genes.

15. The method of any one of claims 12-14, wherein CNVs in mGluR network genes are determined by subjecting the sample to a screen that assesses CNVs in at least 5, 6, 7, 8, 9, 10, 15, 20, 30, 40, 50, 60, 70, or all of Tier 1 mGluR network genes.

16. The method of any one of claims 12-15, wherein CNVs in mGluR network genes are determined by subjecting the sample to a screen that assesses CNVs in at least 50, at least 100, at least 150, at least 175, or all of Tier 2 mGluR network genes.

17. The method of any one of claims 12-16, wherein CNVs in mGluR network genes are determined by subjecting the sample to a screen that assesses CNVs in at least 50, at least 100, at least 200, at least 300, at least 400, at least 500, or all of Tier 3 mGluR network genes.

18. The method of any one of claims 12-17, wherein the subject has anxiety disorder as well as one or more of attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), conduct disorder, Tourette's syndrome, phobia, obsessive compulsive disorder (OCD), difficulty controlling anger, disruptive behaviors, dermatillomania, a developmental disorder, a mood disorder, a movement disorder, or depression.

19. The method of any one of claims 12-17, wherein the subject does not have any of ADHD, ODD, conduct disorder, Tourette's syndrome, phobia, obsessive compulsive disorder (OCD), difficulty controlling anger, disruptive behaviors, dermatillomania, a developmental disorder, a mood disorder, a movement disorder, or depression.

20. The use of any one of claims 1-11, wherein inattentiveness symptoms, hyperactivity symptoms, impulsiveness symptoms, fear symptoms, anxiety symptoms,

panic attacks, and/or disruptive behavior are reduced in frequency and/or severity in the subject after at least 1 week, such as at least 2 weeks, at least 3 weeks, or at least 4 weeks of the treatment with fasoracetam.